

=> file biosis caba caplus embase japio lifesci medline scisearch uspatfull
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FILE 'USPATFULL' ENTERED AT 16:09:27 ON 23 JAN 2006
CA INDEXING COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

=> e sykes kathryn f/au
E1 1 SYKES KARIN CHARLOTTE/AU
E2 11 SYKES KATHRYN/AU
E3 40 --> SYKES KATHRYN F/AU
E4 1 SYKES KATHRYN FRANCES/AU
E5 2 SYKES KATHY/AU
E6 2 SYKES KATHY E/AU
E7 1 SYKES KEBL W/AU
E8 1 SYKES KEBLE W/AU
E9 3 SYKES KEITH/AU
E10 1 SYKES KENNETH C/AU
E11 1 SYKES KENNETH TREMAIN/AU
E12 5 SYKES KENNETH W/AU

=> s e2-e4 and borreli?
L1 2 ("SYKES KATHRYN"/AU OR "SYKES KATHRYN F"/AU OR "SYKES KATHRYN
FRANCES"/AU) AND BORRELI?

=> dup rem l1
PROCESSING COMPLETED FOR L1
L2 2 DUP REM L1 (0 DUPLICATES REMOVED)

=> d

L2 ANSWER 1 OF 2 USPATFULL on STN
AN 2005:68523 USPATFULL
TI Methods and compositions for vaccination comprising nucleic acid and/or
polypeptide sequences of the genus *Borrelia*
IN Sykes, Kathryn F., Dallas, TX, UNITED STATES
Hale, Katherine S., Dallas, TX, UNITED STATES
Johnston, Stephen A., Dallas, TX, UNITED STATES
PI US 2005058661 A1 20050317
AI US 2003-688058 A1 20031017 (10)
PRAI US 2002-419401P 20021018 (60)
DT Utility
FS APPLICATION
LN.CNT 8475
INCL INCLM: 424/190.100
INCLS: 424/234.100; 514/044.000

NCL NCLM: 424/190.100
NCLS: 424/234.100; 514/044.000
IC [7]
ICM A61K039-02
ICS A61K048-00
IPCI A61K0039-02 [ICM,7]; A61K0048-00 [ICS,7]
IPCR A61K0039-02 [I,A]; A61K0039-02 [I,C]; A61K0048-00 [I,A];
A61K0048-00 [I,C]

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d 2

L2 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:1033546 CAPLUS
DN 142:22291
TI Nucleic acid and/or polypeptide sequences of **Borrelia**
burgdorferi for vaccination and antibody preparation techniques
IN **Sykes, Kathryn F.**; Hale, Katherine S.; Johnston, Stephen A.
PA Macrogenics, Inc., USA; Board of Regents, the University of Texas System
SO PCT Int. Appl., 121 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | WO 2004103269 | A2 | 20041202 | WO 2003-US33056 | 20031017 |
| | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, | | | | |
| | CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, | | | | |
| | GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, | | | | |
| | LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, | | | | |
| | OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, | | | | |
| | TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | | |
| | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, | | | | |
| | KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, | | | | |
| | FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, | | | | |
| | BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| | US 2005058661 | A1 | 20050317 | US 2003-688058 | 20031017 |
| PRAI | US 2002-419401P | P | 20021018 | | |

=> e hale katherine s/au

E1 9 HALE KATE/AU
E2 2 HALE KATHERINE/AU
E3 5 --> HALE KATHERINE S/AU
E4 1 HALE KATHERINE STEMKE/AU
E5 1 HALE KATHLEEN/AU
E6 4 HALE KATHRYN/AU
E7 3 HALE KATHRYN A/AU
E8 2 HALE KATHY/AU
E9 4 HALE KATHY A/AU
E10 1 HALE KATIE/AU
E11 1 HALE KAVE/AU
E12 1 HALE KAYE/AU

=> s e2-e4 and borreli?

L3 2 ("HALE KATHERINE"/AU OR "HALE KATHERINE S"/AU OR "HALE KATHERINE
STEMKE"/AU) AND BORRELI?

=> d bib ab 1-

YOU HAVE REQUESTED DATA FROM 2 ANSWERS - CONTINUE? Y/(N):y

L3 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:1033546 CAPLUS
DN 142:22291
TI Nucleic acid and/or polypeptide sequences of **Borrelia**
burgdorferi for vaccination and antibody preparation techniques
IN **Sykes, Kathryn F.**; **Hale, Katherine S.**; Johnston, Stephen A.

PA Macrogenics, Inc., USA; Board of Regents, the University of Texas System
SO PCT Int. Appl., 121 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|--|------|----------|-----------------|----------|
| PI | WO 2004103269 | A2 | 20041202 | WO 2003-US33056 | 20031017 |
| | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | | |
| | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| | US 2005058661 | A1 | 20050317 | US 2003-688058 | 20031017 |

PRAI US 2002-419401P P 20021018

AB The invention relates to 34 antigens and nucleic acids encoding such antigens obtainable by screening a *Borrelia* genome, in particular a *B. burgdorferi* genome. In more specific aspects, the invention relates to methods of isolating such antigens and nucleic acids and to methods of using such isolated antigens for producing immune responses. The ability of an antigen to produce an immune response may be employed in vaccination or antibody preparation techniques.

L3 ANSWER 2 OF 2 USPATFULL on STN

AN 2005:68523 USPATFULL

TI Methods and compositions for vaccination comprising nucleic acid and/or polypeptide sequences of the genus *Borrelia*

IN Sykes, Kathryn F., Dallas, TX, UNITED STATES

Hale, Katherine S., Dallas, TX, UNITED STATES

Johnston, Stephen A., Dallas, TX, UNITED STATES

PI US 2005058661 A1 20050317

AI US 2003-688058 A1 20031017 (10)

PRAI US 2002-419401P 20021018 (60)

DT Utility

FS APPLICATION

LREP FULBRIGHT & JAWORSKI L.L.P., 600 CONGRESS AVE., SUITE 2400, AUSTIN, TX, 78701

CLMN Number of Claims: 23

ECL Exemplary Claim: CLM-01-30

DRWN 2 Drawing Page(s)

LN.CNT 8475

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to antigens and nucleic acids encoding such antigens obtainable by screening a *Borrelia* genome, in particular an *B. burgdorferi* genome. In more specific aspects, the invention relates to methods of isolating such antigens and nucleic acids and to methods of using such isolated antigens for producing immune responses. The ability of an antigen to produce an immune response may be employed in vaccination or antibody preparation techniques.

=> e johnston stephen a/au

E1 3 JOHNSTON STEPHANIE P/AU

E2 38 JOHNSTON STEPHEN/AU

E3 112 --> JOHNSTON STEPHEN A/AU

E4 152 JOHNSTON STEPHEN ALBERT/AU

E5 1 JOHNSTON STEPHEN B/AU

E6 14 JOHNSTON STEPHEN D/AU

E7 1 JOHNSTON STEPHEN DOUGLAS/AU

E8 6 JOHNSTON STEPHEN E/AU

E9 2 JOHNSTON STEPHEN H/AU

E10 2 JOHNSTON STEPHEN HAROLD/AU

E11 12 JOHNSTON STEPHEN J/AU
E12 1 JOHNSTON STEPHEN L/AU

=> s e2-e4 and borreli?

L4 5 ("JOHNSTON STEPHEN"/AU OR "JOHNSTON STEPHEN A"/AU OR "JOHNSTON
STEPHEN ALBERT"/AU) AND BORRELI?

=> dup rem l4

PROCESSING COMPLETED FOR L4

L5 5 DUP REM L4 (0 DUPLICATES REMOVED)

=> d bib ab 1-

YOU HAVE REQUESTED DATA FROM 5 ANSWERS - CONTINUE? Y/(N):y

L5 ANSWER 1 OF 5 USPATFULL on STN

AN 2005:68523 USPATFULL

TI Methods and compositions for vaccination comprising nucleic acid and/or
polypeptide sequences of the genus **Borrelia**

IN Sykes, Kathryn F., Dallas, TX, UNITED STATES

Hale, Katherine S., Dallas, TX, UNITED STATES

Johnston, Stephen A., Dallas, TX, UNITED STATES

PI US 2005058661 A1 20050317

AI US 2003-688058 A1 20031017 (10)

PRAI US 2002-419401P 20021018 (60)

DT Utility

FS APPLICATION

LREP FULBRIGHT & JAWORSKI L.L.P., 600 CONGRESS AVE., SUITE 2400, AUSTIN, TX,
78701

CLMN Number of Claims: 23

ECL Exemplary Claim: CLM-01-30

DRWN 2 Drawing Page(s)

LN.CNT 8475

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to antigens and nucleic acids encoding such
antigens obtainable by screening a **Borrelia** genome, in
particular an *B. burgdorferi* genome. In more specific aspects, the
invention relates to methods of isolating such antigens and nucleic
acids and to methods of using such isolated antigens for producing
immune responses. The ability of an antigen to produce an immune
response may be employed in vaccination or antibody preparation
techniques.

L5 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2004:1033546 CAPLUS

DN 142:22291

TI Nucleic acid and/or polypeptide sequences of **Borrelia**
burgdorferi for vaccination and antibody preparation techniques

IN Sykes, Kathryn F.; Hale, Katherine S.; **Johnston, Stephen A.**

PA Macrogenics, Inc., USA; Board of Regents, the University of Texas System

SO PCT Int. Appl., 121 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-----------------|--|----------|-----------------|----------|
| PI | WO 2004103269 | A2 | 20041202 | WO 2003-US33056 | 20031017 |
| | W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | |
| | RW: | GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | |
| | US 2005058661 | A1 | 20050317 | US 2003-688058 | 20031017 |
| PRAI | US 2002-419401P | P | 20021018 | | |

AB The invention relates to 34 antigens and nucleic acids encoding such antigens obtainable by screening a *Borrelia* genome, in particular a *B. burgdorferi* genome. In more specific aspects, the invention relates to methods of isolating such antigens and nucleic acids and to methods of using such isolated antigens for producing immune responses. The ability of an antigen to produce an immune response may be employed in vaccination or antibody preparation techniques.

L5 ANSWER 3 OF 5 USPATFULL on STN

AN 2004:273315 USPATFULL

TI Use of Parapox B2L protein to modify immune responses to administered antigens

IN Johnston, Stephen A., Dallas, TX, UNITED STATES

McGuire, Michael J., Dallas, TX, UNITED STATES

PI US 2004213807 A1 20041028

AI US 2004-857546 A1 20040528 (10)

RLI Continuation of Ser. No. US 2003-414609, filed on 15 Apr 2003, GRANTED, Pat. No. US 6752996 Continuation-in-part of Ser. No. US 2002-123058, filed on 15 Apr 2002, GRANTED, Pat. No. US 6752995 Continuation-in-part of Ser. No. WO 2002-US38971, filed on 6 Dec 2002, PENDING

PRAI US 2001-336694P 20011207 (60)

DT Utility

FS APPLICATION

LREP RICHARD ARON OSMAN, SCIENCE AND TECHNOLOGY LAW GROUP, 242 AVE VISTA DEL OCEANO, SAN CLEMENTE, CA, 92672

CLMN Number of Claims: 15

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 673

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The Parapox B2L virus envelope protein is used as an adjuvant to enhance a subject's response to an administered antigen. Both antibody and cellular immune responses can be modified. B2L protein is particularly useful as an adjuvant for poorly immunogenic tumor vaccines and subunit vaccines, such as those useful for preventing and/or treating flu, tuberculosis, respiratory syncytial virus, anthrax and HIV.

L5 ANSWER 4 OF 5 USPATFULL on STN

AN 2004:70931 USPATFULL

TI USE OF PARAPOX B2L PROTEIN TO MODIFY IMMUNE RESPONSES TO ADMINISTERED ANTIGENS

IN Johnston, Stephen A., Dallas, TX, UNITED STATES

McGuire, Michael J., Dallas, TX, UNITED STATES

PI US 2004054159 A1 20040318

US 6723329 B2 20040420

AI US 2003-414759 A1 20030415 (10)

RLI Continuation of Ser. No. WO 2002-US38971, filed on 6 Dec 2002, PENDING

PRAI US 2001-336694P 20011207 (60)

DT Utility

FS APPLICATION

LREP RICHARD ARON OSMAN, SCIENCE AND TECHNOLOGY LAW GROUP, 75 DENISE DRIVE, HILLSBOROUGH, CA, 94010

CLMN Number of Claims: 13

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 505

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The Parapox B2L virus envelope protein is used as an adjuvant to enhance a subject's response to an administered antigen. Both antibody and cellular immune responses can be modified. B2L protein is particularly useful as an adjuvant for poorly immunogenic tumor vaccines and subunit vaccines, such as those useful for preventing and/or treating flu, tuberculosis, respiratory syncytial virus, anthrax and HIV.

L5 ANSWER 5 OF 5 USPATFULL on STN

AN 2003:276712 USPATFULL

TI Use of parapox B2L protein to modify immune responses to administered antigens

IN Johnston, Stephen A., Dallas, TX, UNITED STATES

McGuire, Michael J., Dallas, TX, UNITED STATES
PI US 2003194737 A1 20031016
US 6752996 B2 20040622
AI US 2003-414609 A1 20030415 (10)
RLI Continuation of Ser. No. US 2002-123058, filed on 15 Apr 2002, PENDING
DT Utility
FS APPLICATION
LREP RICHARD ARON OSMAN, SCIENCE AND TECHNOLOGY LAW GROUP, 75 DENISE DRIVE,
HILLSBOROUGH, CA, 94010
CLMN Number of Claims: 15
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 671

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The Parapox B2L virus envelope protein is used as an adjuvant to enhance
a subject's response to an administered antigen. Both antibody and
cellular immune responses can be modified. B2L protein is particularly
useful as an adjuvant for poorly immunogenic tumor vaccines and subunit
vaccines, such as those useful for preventing and/or treating flu,
tuberculosis, respiratory syncytial virus, anthrax and HIV.

=> s borreli? and vaccin? and antigen?

L6 3360 BORRELI? AND VACCIN? AND ANTIGEN?

=> s l6 and borreli?/ti and vaccin?/ti and antigen?/ti

L7 30 L6 AND BORRELI?/TI AND VACCIN?/TI AND ANTIGEN?/TI.

=> dup rem l7

PROCESSING COMPLETED FOR L7

L8 17 DUP REM L7 (13 DUPLICATES REMOVED)

=> d bib ab 1-

YOU HAVE REQUESTED DATA FROM 17 ANSWERS - CONTINUE? Y/(N):y

L8 ANSWER 1 OF 17 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
DUPLICATE 1

AN 2005:321844 BIOSIS

DN PREV200510111626

TI Synthesis of major glycolipid **antigens** of **Borrelia**
burgdorferi for use in conjugate **vaccines** against Lyme disease.

AU Pozsgay, Vince [Reprint Author]; Kubler-Kielb, Joanna; Coxon, Bruce;
Ben-Menachem, Gil; Schneerson, Rachel

CS NICHHD, NIH, Bethesda, MD 20892 USA

SO Glycobiology, (NOV 2004) Vol. 14, No. 11, pp. 1087.

Meeting Info.: Joint Meeting of the Society-for-Glycobiology/Japanese-
Society-for-Carbohydrate-Research. Honolulu, HI, USA. November 17 -20,
2004. Soc Gylcobiol; Japanese Soc Carbohydrate Res.
ISSN: 0959-6658.

DT Conference; (Meeting)

Conference; Abstract; (Meeting Abstract)

LA English

ED Entered STN: 25 Aug 2005

Last Updated on STN: 25 Aug 2005

L8 ANSWER 2 OF 17 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
DUPLICATE 2

AN 2003:174578 BIOSIS

DN PREV200300174578

TI Artificial-infection protocols allow immunodetection of novel
Borrelia burgdorferi **antigens** suitable as
vaccine candidates against Lyme disease.

AU Wallich, Reinhard; Jahraus, Oliver; Stehle, Thomas; Tran, Thi Thanh Thao;
Brenner, Christiane; Hofmann, Heide Lore; Gern, Lise; Simon, Markus M.
[Reprint Author]

CS Max-Planck-Institut fuer Immunbiologie, Stuebeweg 51, D-79108, Freiburg,
Germany

simon@immunbio.mpg.de

SO European Journal of Immunology, (March 2003) Vol. 33, No. 3, pp. 708-719.

print.
ISSN: 0014-2980 (ISSN print).

DT Article
LA English
ED Entered STN: 9 Apr 2003
Last Updated on STN: 9 Apr 2003

AB **Vaccination** with recombinant outer surface protein A (OspA) from *Borrelia burgdorferi* provides excellent antibody-mediated protection against challenge with the pathogen in animal models and in humans. However, the bactericidal antibodies are ineffective in the reservoir host, since OspA is expressed by spirochetes only in the vector, but rarely, if at all, in mammals. Using an artificially generated immune serum (anti-108 spirochetes) with high protective potential for prophylactic and therapeutic treatment, we have now isolated from an expression library of *B. burgdorferi* (strain ZS7) three novel genes, *zs7.a36*, *zs7.a66* and *zs7.a68*. All three genes are located, together with *ospA/B*, on the linear plasmid *lp54*, and are expressed in vitro and in ticks. At least temporarily two of them, *ZS7.A36* and *ZS7.A66*, are also expressed during infection. The respective natural **antigens** are poorly immunogenic in infected normal mice but elicited antibodies in Lyme disease patients. We show that recombinant preparations of *ZS7.A36*, *ZS7.A66* and *ZS7.A68* induce functional antibodies in rabbits capable of protecting immunodeficient mice against subsequent experimental infection. These findings suggest that all three recombinant **antigens** represent potential candidates for a 'second generation' **vaccine** to prevent and/or cure Lyme disease.

L8 ANSWER 3 OF 17 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
DUPLICATE 3

AN 2002:39532 BIOSIS
DN PREV200200039532

TI Tick (*Ixodes scapularis*) vector saliva-induced Lyme disease spirochete (*Borrelia burgdorferi*) **antigens** as **vaccine** candidates.

AU Nelson, David R. [Inventor, Reprint author]; Mather, Thomas N. [Inventor];
Scorpio, Angelo [Inventor]

CS Wakefield, RI, USA

ASSIGNEE: The Board of Governors for Higher Education, State of Rhode
Island, Providence, RI, USA; Providence Plantations, Providence, RI, USA

PI US 6312915 20011106

SO Official Gazette of the United States Patent and Trademark Office Patents,
(Nov. 6, 2001) Vol. 1252, No. 1. e-file.

CODEN: OGUPE7. ISSN: 0098-1133.

DT Patent
LA English

ED Entered STN: 2 Jan 2002
Last Updated on STN: 25 Feb 2002

AB The invention relates to a method by which new **antigens** from vector-borne pathogens may be discovered and analyzed by incubating the viable pathogens in the saliva of their vector host. Three such **antigens**, proteins with the approximate molecular weights of 19, 22 and 24 kDa, have been discovered and analyzed from a strain of *B. burgdorferi* T-15. The proteins provide a route for the development of immunodiagnosics for Lyme disease and related disorders. The proteins and related amino acids and DNA sequences may also be used for the immunization, for the detection of *B. burgdorferi* in human or body fluids, and also for the generation of specific antibodies for use in diagnosis, epidemiology, prevention of and treatment of Lyme disease.

L8 ANSWER 4 OF 17 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2001:192612 CAPLUS
DN 134:232720

TI The 66 kDa **antigens** and their genes from *Borrelia* species and their use as **vaccines** and diagnostic agents

IN Bergstrom, Sven; Barbour, Alan George
PA Symbicom Aktiebolag, Swed.

SO U.S., 43 pp., Cont.-in-part of U.S. 6,054,296.
CODEN: USXXAM

DT Patent

LA English

FAN.CNT 7

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | US 6204018 | B1 | 20010320 | US 1997-750494 | 19970612 |
| | US 6054296 | A | 20000425 | US 1994-262220 | 19940620 |
| | WO 9535379 | A1 | 19951228 | WO 1995-US7665 | 19950619 |
| | W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT | | | | |
| | RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| PRAI | US 1994-262220 | A2 | 19940620 | | |
| | WO 1995-US7665 | W | 19950619 | | |
| | DK 1988-5902 | A | 19881024 | | |
| | US 1989-422881 | B1 | 19891018 | | |
| | US 1992-924798 | B1 | 19920806 | | |
| | US 1993-79601 | A2 | 19930622 | | |

AB Nucleic acid fragments are disclosed which encode a polypeptide **antigen** reactive with antisera from rabbits immunized with a 66-kDa protein from *Borrelia garinii* IP90. The presence of nucleic acid fragments encoding such a polypeptide **antigen** as well as the presence of the polypeptide **antigen** are demonstrated in *B. burgdorferi* sensu lato B31, *B. afzelii* ACAI and *B. garinii* IP90, but are substantially absent from $\geq 95\%$ of randomly selected *B. hermsii*, *B. crocidurae*, *B. anserina*, and *B. hispanica*. The encoded polypeptide is surface exposed on the bacterial surface; it is highly conserved, and is thus potentially useful as a **vaccine** agent and as a diagnostic agent in the diagnosis of infections with *B. burgdorferi* as are the characteristic nucleic acid fragments of the invention. Also disclosed are methods of producing the polypeptide **antigen** according to the invention as are antibodies directed against the **antigen**.

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 5 OF 17 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2001:432780 CAPLUS

DN 135:24652

TI **Antigens** for the diagnosis of Lyme **borreliosis** and **vaccine** against the disease

IN Jungblut, Peter; Dilgimen, Aydan; Thies, Sascha; Wittmann, Brigitte

PA Wita Proteomics A.-G., Germany

SO Ger. Offen., 4 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|------------------|----------|
| PI | DE 19960113 | A1 | 20010613 | DE 1999-19960113 | 19991208 |
| | WO 2001042790 | A2 | 20010614 | WO 2000-EP12454 | 20001208 |
| | WO 2001042790 | A3 | 20011206 | | |
| | W: CA, US | | | | |
| | RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR | | | | |
| | EP 1238280 | A2 | 20020911 | EP 2000-991154 | 20001208 |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR | | | | |
| | US 2003138868 | A1 | 20030724 | US 2002-149532 | 20020930 |
| PRAI | DE 1999-19960113 | A | 19991208 | | |
| | WO 2000-EP12454 | W | 20001208 | | |

AB The invention concerns the diagnosis of Lyme **borreliosis** with glyceraldehyde-3-phosphate dehydrogenase, oligopeptide permease or their fragments as **antigens** and the use of these enzymes, their fragments or coding DNA as **vaccines**. The **antigens** are specific for *Borrelia garinii* antibodies; for ELISA assays **antigens** are immobilized onto a solid carrier. Assays are

performed from body fluids, especially from serum.

L8 ANSWER 6 OF 17 LIFESCI COPYRIGHT 2006 CSA on STN
AN 2002:9382 LIFESCI
TI Tick (Ixodes scapularis) vector saliva-induced Lyme disease spirochete (**Borrelia burgdorferi**) **antigens** as **vaccine** candidates
AU Nelson, D.R.; Mather, T.N.; Scorpio, A.
CS The Board of Governors for Higher Education, State of Rhode Island
SO (20011106) . US Patent: 6312915; US CLASS: 435/7.1; 435/7.22; 435/7.32; 435/7.92; 435/34; 435/41; 436/506.
DT Patent
FS W3
LA English
SL English
AB The invention relates to a method by which new **antigens** from vector-borne pathogens may be discovered and analyzed by incubating the viable pathogens in the saliva of their vector host. Three such **antigens**, proteins with the approximate molecular weights of 19, 22 and 24 kDa, have been discovered and analyzed from a strain of **B. burgdorferi** T-15. The proteins provide a route for the development of immunodiagnostics for Lyme disease and related disorders. The proteins and related amino acids and DNA sequences may also be used for the immunization, for the detection of **B. burgdorferi** in human or body fluids, and also for the generation of specific antibodies for use in diagnosis, epidemiology, prevention of and treatment of Lyme disease.

L8 ANSWER 7 OF 17 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2000:260541 CAPLUS
DN 132:275757
TI Method for diagnosis of **Borrelia** infection and **Borrelia** **antigens** for use in **vaccines**
IN Simon, Markus; Wallich, Reinhard; Kramer, Michael
PA Max-Planck-Gesellschaft Zur Forderung Der Wissenschaften E.V., Germany
SO PCT Int. Appl., 58 pp.
CODEN: PIXXD2

DT Patent
LA German

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|------------------|----------|
| PI | WO 2000022134 | A2 | 20000420 | WO 1999-EP7651 | 19991012 |
| | WO 2000022134 | A3 | 20000824 | | |
| | W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| | RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| | DE 19847142 | A1 | 20000427 | DE 1998-19847142 | 19981013 |
| | AU 9963383 | A1 | 20000501 | AU 1999-63383 | 19991012 |
| PRAI | DE 1998-19847142 | A | 19981013 | | |
| | WO 1999-EP7651 | W | 19991012 | | |

AB The invention relates to a method and a kit for the diagnosis of **Borrelia** infection by detection of anti-**Borrelia** antibodies. The invention also relates to novel **Borrelia** cells, lysates, fractions and **antigens** of said cells and to their use as anal. reagents or immunogens. Thus, **Borrelia** growing in mice were found to express addnl. **antigenic** proteins (of mol. weight 9.5, 18, 19, 30, 32, 33, 62, 70, 80, 90, 100, and 102 kilodaltons) relative to those cultured in vitro. These **antigens** are the basis of diagnosis of **Borrelia** infection, i.e., they are used in Western blots, ELISA, or immunofluorescence assays to detect the presence of anti-**Borrelia** antibodies. The sequences of these proteins and the genes encoding these proteins were determined. The genes were expressed in *Escherichia coli*.

L8 ANSWER 8 OF 17 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1999:194170 CAPLUS
 DN 130:236453
 TI P13 **antigens** and P13 genes of Lyme disease **Borrelia**
 and methods for diagnosis and **vaccination**
 IN Bergstrom, Sven
 PA Symbicom Ab, Swed.
 SO PCT Int. Appl., 118 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|------------|--|----------|-----------------|----------|
| PI | WO 9912960 | A2 | 19990318 | WO 1998-IB1424 | 19980904 |
| | WO 9912960 | A3 | 19990527 | | |
| | W: | AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | |
| | RW: | GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | |
| | CA 2300365 | AA | 19990318 | CA 1998-2300365 | 19980904 |
| | AU 9888811 | A1 | 19990329 | AU 1998-88811 | 19980904 |
| | EP 1012269 | A2 | 20000628 | EP 1998-940504 | 19980904 |
| | R: | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | |

PRAI DK 1997-1041 A 19970910
 US 1997-59036P P 19970916
 WO 1998-IB1424 W 19980904

AB A 13 kDa cell surface **antigen** (P13) found on Lyme disease **Borrelia** (*B. burgdorferi*, *B. garinii*, *B. afzelii*) but not *B. hermsii*, *B. crocidurae*, *B. anserina*, or *B. hispanica* and the gene for P13 are disclosed. Addnl., P13 epitopes, vectors, transformed cells, a method of preparing P13 or P13 epitopes, and **vaccines** as well as diagnostic compns. and kits are further disclosed. The P13 genes of the 3 Lyme disease **Borrelia** were cloned and sequenced. The *B. burgdorferi* P13 gene was expressed in *Escherichia coli*.

L8 ANSWER 9 OF 17 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1999:27959 CAPLUS
 DN 130:109198
 TI **Borrelia** polynucleotides and **antigenic** polypeptides
 for use as Lyme disease **vaccines** and diagnostics
 IN Choi, Gil H.; Erwin, Alice L.; Hanson, Mark S.; Lathigra, Raju
 PA Human Genome Sciences, Inc., USA; Medimmune, Inc.
 SO PCT Int. Appl., 275 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|------------|--|----------|-----------------|----------|
| PI | WO 9859071 | A1 | 19981230 | WO 1998-US12718 | 19980618 |
| | W: | AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | |
| | RW: | GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | |
| | CA 2294568 | AA | 19981230 | CA 1998-2294568 | 19980618 |
| | AU 9881518 | A1 | 19990104 | AU 1998-81518 | 19980618 |
| | EP 1009859 | A1 | 20000621 | EP 1998-931370 | 19980618 |

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, FI

| | | | | |
|---------------------|----|----------|----------------|----------|
| US 6902893 | B1 | 20050607 | US 2001-830230 | 19980618 |
| US 2005147999 | A1 | 20050707 | US 2004-994726 | 20041123 |
| PRAI US 1997-50359P | P | 19970620 | | |
| US 1997-53344P | P | 19970722 | | |
| US 1997-53377P | P | 19970722 | | |
| US 1997-57483P | P | 19970903 | | |
| WO 1998-US12718 | W | 19980618 | | |
| US 2001-830230 | A3 | 20010927 | | |

AB The present invention relates to novel **vaccines** for the prevention or attenuation of Lyme disease. The invention further relates to isolated nucleic acid mols. encoding **antigenic** polypeptides of **Borrelia burgdorferi**. Also provided are **antigenic** polypeptides for use as **vaccine** and antibodies for diagnosis, as are vectors, host cells and recombinant methods for producing the same. The invention addnl. relates to diagnostic methods for detecting **Borrelia** gene expression.

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 10 OF 17 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1998:126359 CAPLUS

DN 128:202966

TI **Antigenic** proteins of **Borrelia burgdorferi** and the genes encoding them and their use in test kits and **vaccines**

IN Motz, Manfred; Soutschek, Erwin

PA Mikrogen Molekularbiologische Entwicklungs-G.m.b.H., Germany; Motz, Manfred; Soutschek, Erwin

SO PCT Int. Appl., 42 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|------|----------|------------------|----------|
| PI | WO 9806850 | A1 | 19980219 | WO 1997-EP4215 | 19970801 |
| | W: AU, CA, JP, US | | | | |
| | RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | DE 19632862 | A1 | 19980219 | DE 1996-19632862 | 19960814 |
| | CA 2263152 | AA | 19980219 | CA 1997-2263152 | 19970801 |
| | AU 9738509 | A1 | 19980306 | AU 1997-38509 | 19970801 |
| | EP 918865 | A1 | 19990602 | EP 1997-935563 | 19970801 |
| | EP 918865 | B1 | 20050316 | | |
| | R: AT, BE, CH, DE, DK, FR, GB, LI, LU, NL, SE, MC, IE, FI | | | | |
| | AT 291088 | E | 20050415 | AT 1997-935563 | 19970801 |
| | US 6610301 | B1 | 20030826 | US 1999-242299 | 19990212 |
| | US 2003185859 | A1 | 20031002 | US 2003-403220 | 20030326 |
| | US 6808711 | B2 | 20041026 | | |
| PRAI | DE 1996-19632862 | A | 19960814 | | |
| | WO 1997-EP4215 | W | 19970801 | | |
| | US 1999-242299 | A3 | 19990212 | | |

AB Two new **antigenic** proteins of **Borrelia burgdorferi** (proteins 1829-22A and 1829-22B) that can be purified in a form suitable for use in **vaccines** are described. These proteins can also be used in diagnostic assays for antibodies to **Borrelia**. These proteins were obtained as part of an octyl glucoside-soluble protein pool of **B. burgdorferi** lysates. After fractionation of the pool on polyacrylamide gels, partial sequences were used to derive probes for the genes. 1829-22B was manufactured by expression of the gene in *Escherichia coli*. The protein was found to be specific for Lyme **borreliosis** patients and responded to the Ig class that earlier diagnostic assays had identified.

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 11 OF 17 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1997:385690 CAPLUS

DN 127:4090

TI Tick (Ixodes scapularis) vector saliva-induced Lyme disease spirochete (**Borrelia burgdorferi**) **antigens as vaccine**
 candidates
 IN Nelson, David R.; Mather, Thomas N.; Scorpio, Angelo
 PA Board of Governors for Higher Education, State of Rhode Island and
 Providence Plantations, USA
 SO PCT Int. Appl., 59 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | WO 9715600 | A1 | 19970501 | WO 1996-US17445 | 19961028 |
| | RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | EP 880543 | A1 | 19981202 | EP 1996-939512 | 19961028 |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |
| | US 6312915 | B1 | 20011106 | US 1997-790569 | 19970129 |
| PRAI | US 1995-548497 | A | 19951026 | | |
| | WO 1996-US17445 | W | 19961028 | | |

AB The invention relates to a method by which new **antigens** from vector-borne pathogens may be discovered and analyzed by incubating the viable pathogens in the saliva of their vector host. Three such **antigens**, proteins with the approx. mol. wts. of (19, 22 and 24) kDa, have been discovered and analyzed from a strain of **Borrelia burgdorferi** T-15. The proteins provide a route for the development of immunodiagnosics for Lyme disease and related disorders. The proteins and related amino acids and DNA sequences may also be used for the immunization, for the detection of *B. burgdorferi* in human or body fluids, and also for the generation of specific antibodies for use in diagnosis, epidemiol., prevention of and treatment of Lyme disease.

L8 ANSWER 12 OF 17 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1997:729 CAPLUS
 DN 126:103100
 TI Recombinant mycobacteria expressing **Borrelia antigen**
 on their surface and use of recombinant mycobacteria as **vaccines**
 for Lyme disease
 IN Stover, Charles K.
 PA Medimmune, Inc., USA
 SO U.S., 112 pp., Cont.-in-part of U.S. Ser. No. 780,261, abandoned.
 CODEN: USXXAM
 DT Patent
 LA English
 FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| PI | US 5583038 | A | 19961210 | US 1992-977630 | 19921117 |
| PRAI | US 1991-780261 | B2 | 19911021 | | |

AB An expression vector for expressing a protein in mycobacteria, which comprises a first DNA sequence encoding at least a secretion signal of a lipoprotein, and a second DNA sequence encoding a protein, or fragment thereof, which is heterologous to the mycobacteria which express the protein or fragment is described. The mycobacteria express a fusion protein comprising a lipoprotein or lipoprotein segment and the protein or fragment. Such expression vectors increase the immunogenicity of the protein or fragment by enabling the protein or fragment to be expressed on the surface of the mycobacteria. Mycobacteria which may be transformed with the expression vector include mycobacteria such as BCG. The expression vectors of the present invention may be employed in the formation of live bacterial **vaccines** against Lyme disease wherein the mycobacteria express a surface protein of **Borrelia burgdorferi**, the causative agent of Lyme disease. Recombinant BCG expressing a chimeric gene comprising *M. tuberculosis* 19 kDa **antigen** promoter and signal sequence fused to *B. burgdorferi* OspA **antigen** gene were prepared. The OspA **antigen** was presented on the surface of BCG. Mice **vaccinated** with these recombinant BCG were protected from challenge with *B. burgdorferi*.

L8 ANSWER 13 OF 17 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1996:405946 CAPLUS
 DN 125:83996
 TI Identification and evaluation of **Borrelia burgdorferi**
antigens as components of a subunit Lyme disease **vaccine**
 AU Probert, William Scott
 CS Univ. of California, Davis, CA, USA
 SO (1995) 85 pp. Avail.: Univ. Microfilms Int., Order No. DA9617971
 From: Diss. Abstr. Int., B 1996, 57(2), 869
 DT Dissertation
 LA English
 AB Unavailable

L8 ANSWER 14 OF 17 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1996:121191 CAPLUS
 DN 124:167520
 TI Cloning and expression of gene for 66 kilodalton **antigen** from
Borrelia and **vaccines** for lyme disease
 IN Bergstroem, Sven; Barbour, Alan George
 PA Symbicom AB, Swed.
 SO PCT Int. Appl., 119 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 7

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | WO 9535379 | A1 | 19951228 | WO 1995-US7665 | 19950619 |
| | W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT | | | | |
| | RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| | US 6054296 | A | 20000425 | US 1994-262220 | 19940620 |
| | AU 9528632 | A1 | 19960115 | AU 1995-28632 | 19950619 |
| | AU 686407 | B2 | 19980205 | | |
| | EP 766739 | A1 | 19970409 | EP 1995-923924 | 19950619 |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE | | | | |
| | US 6204018 | B1 | 20010320 | US 1997-750494 | 19970612 |
| PRAI | US 1994-262220 | A | 19940620 | | |
| | DK 1988-5902 | A | 19881024 | | |
| | US 1989-422881 | B1 | 19891018 | | |
| | US 1992-924798 | B1 | 19920806 | | |
| | US 1993-79601 | A2 | 19930622 | | |
| | WO 1995-US7665 | W | 19950619 | | |

AB Nucleic acid fragments are disclosed which encode a polypeptide **antigen** reactive with antisera from rabbits immunized with a 66 kDa protein from **Borrelia garinii** IP90. The presence of nucleic acid fragments encoding such a polypeptide **antigen** as well as the presence of the polypeptide **antigen** have been demonstrated in three strains of *B. burgdorferi sensu lato*, but are substantially absent from at least 95% of randomly selected *B. hermsii*, *B. crocidurae*, *B. anserina*, and *B. hispanica*. The encoded polypeptide is surface exposed on the bacterial surface, it is highly conserved, and is thus potentially useful as a **vaccine** agent and as a diagnostic agent in the diagnosis of infections with *B. burgdorferi* as are the characteristic nucleic acid fragments of the invention. Also disclosed are methods of producing the polypeptide **antigen** according to the invention as are antibodies directed against the **antigen**.

L8 ANSWER 15 OF 17 CABA COPYRIGHT 2006 CABI on STN DUPLICATE 4
 AN 96:30955 CABA
 DN 19960501014
 TI Protection against **antigenically** variable **Borrelia**
burgdorferi conferred by recombinant **vaccines**
 AU Telford, S. R., III; Fikrig, E.; Barthold, W.; Brunet, L. R.; Spielman,

A.; Flavell, R. A.
CS Department of Tropical Public Health, Harvard University School of Public
Health, Boston, MA 02115, USA.
SO Journal of Experimental Medicine, (1993) Vol. 178, No. 2, pp. 755-758. 20
ref.
ISSN: 0022-1007
DT Journal
LA English
ED Entered STN: 19960318
Last Updated on STN: 19960318
AB Due to local variation in the **antigenicity** of the agent of Lyme
disease (*B. burgdorferi*), a **vaccine** derived from any one isolate
of this spirochaete may fail to protect against the heterogeneous
population of organisms that may be present in an enzootic focus.
Accordingly, it was determined whether **antigenically** variable
spirochaetes delivered by naturally infected [*Ixodes scapularis*] ticks,
collected from a site where transmission is intense, may fail to infect
mice actively immunized with recombinant glutathione transferase outer
surface fusion proteins A or B (OspA and OspB). Virtually all mice
vaccinated by either immunogen appeared not to become infected, as
determined by culture or histopathology of their tissues. It is concluded
that Osp **vaccination** of mice effectively prevents infection by
the agent of Lyme disease in a simulated natural cycle of transmission.

L8 ANSWER 16 OF 17 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on
STN
AN 1993:410112 BIOSIS
DN PREV199396075837
TI Protection against **antigenically** variable **Borrelia**
burgdorferi conferred by recombinant **vaccines**.
AU Telford, Sam R. Iii [Reprint author]; Fikrig, Erol; Barthold, Stephen W.;
Brunet, Laura Rosa; Spielman, Andrew; Flavell, Richard A.
CS Dep. Tropical Public Health, Harvard Sch. Public Health, 665 Huntington
Ave., Boston, MA 02115, USA
SO Journal of Experimental Medicine, (1993) Vol. 178, No. 2, pp. 754-758.
CODEN: JEMEAU. ISSN: 0022-1007.
DT Article
LA English
ED Entered STN: 8 Sep 1993
Last Updated on STN: 3 Jan 1995
AB Due to local variation in the **antigenicity** of the agent of Lyme
disease (*Borrelia burgdorferi*), a **vaccine** derived from
any one isolate of this spirochete may fail to protect against the
heterogeneous population of organisms that may be present in an enzootic
focus. Accordingly, we determined whether **antigenically**
variable spirochetes delivered by naturally infected ticks, collected from
a site where transmission is intense, may fail to infect mice actively
immunized with recombinant glutathione transferase outer surface fusion
proteins A or B (OspA and OspB). Virtually all mice **vaccinated**
by either immunogen appeared not to become infected, as determined by
culture or histopathology of their tissues. We conclude that Osp
vaccination of mice effectively prevents infection by the agent of
Lyme disease in a simulated natural cycle of transmission.

L8 ANSWER 17 OF 17 JAPIO (C) 2006 EPO on STN
AN 1991-209400 JAPIO
TI **VACCINE** FOR LYME ARTHRITIS, ITS PREPARATION, MONOCLONAL
ANTIBODY, PATHOGENIC *BORRELIA BULGDOFIERI* STRAIN, **ANTIGEN**,
RECOMBINANT DNA, RECOMBINANT VECTOR, PREPARATION OF **ANTIGEN** AND
ISOLATION AND RECULTIVATION OF SAID *BORRELIA BULGDOFIERI* SYSTEM
IN MARUKUSU EMU JIMON; URURITSUHI EE SHIYAIBURE; KURASU AIHIMAN; MIHIAERU
KURAMAA; BUARITSUHI RAINHARUTO
PA MAX PLANCK GES FOERDERUNG WISSENSCHAFT EV
DOITSUCHIESU KUREEPUSUFUORUSHIYUNGUSUTSUENTORUMU SUCHIFUTSUNGU DESU
ETSUFUEN TORITSUHIEN REHITSU
PI JP 03209400 A 19910912 Heisei
AI JP 1990-247650 (JP02247650 Heisei) 19900919
PRAI DE 1989-3931236 19890919
DE 1990-4015911 19900517